

Atty. Docket No. OPP031050US
Serial No: 10/722,299

Amendments to the Claims

1. (Currently Amended) A bonding pad of a semiconductor device comprising:
a barrier metal layer formed on a structure of a semiconductor substrate;
a metal wire layer formed on the barrier metal layer;
a passivation metal layer formed on the metal wire layer, having a and removed
portion partly to expose a portion of the exposing an upper surface portion of the metal wire
layer;
an insulating layer which is formed on the passivation metal layer, and has having
a contact hole exposing the metal wire layer via the removed portion that of the passivation metal
layer is removed; and
an adhesive metal layer formed on the an inner surface of the contact hole,
exposing the metal wire layer.
2. (Currently Amended) The bonding pad of claim 1, wherein the adhesive metal
layer is made of any one of comprises a metallic material selected from a the group of Al, Ti, and
TiN.
3. (Original) The bonding pad of claim 1, wherein the adhesive metal layer has a
thickness of 1000-3000 Å.
4. (Currently Amended) A formation method of a bonding pad of a semiconductor
device comprising:
forming a barrier metal layer on a structure of a semiconductor substrate and
depositing a metal wire layer and a passivation metal layer on the barrier metal layer;
forming an insulating layer and a passivation layer covering the barrier metal
layer, the metal wire layer, and the passivation metal layer;
forming a contact hole by coating a photoresist layer on the passivation layer,
exposing and developing the photoresist layer to remove a portion of the photoresist layer
selectively on an area where athe contact hole will be formed, and etching the passivation layer

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exposed by the removed portion of the photoresist layer and the insulating layer and the passivation metal layer under the passivation layer;

removing the photoresist layer and forming a metal layer on entire surfaces of the passivation layer and the contact hole; and

forming an adhesive metal layer by dry-etching the metal layer to remove a portions of the metal layer placed on the upper surfaces of the passivation layer and metal wire layer and thus remaining leave only the a portion of the metal layer on an inside surface of the contact hole, exposing the metal wire layer.

5. (Original) The method of claim 4, wherein the metal wire layer is formed by depositing aluminum alloy at a temperature of equal to or higher than 100°C.

6. (Currently Amended) The method of claim 4, wherein the metal layer is made of any one of comprises at least one metallic material selected from a the group of Al, Ti, and TiN.

7. (Original) The method of claim 4, wherein the metal layer has a thickness of 1000-3000 Å.

8. (Original) The method of claim 4, wherein the metal layer is deposited at a temperature of 200-400°C.

9. (New) The bonding pad of claim 1, wherein the adhesive metal layer extends to the upper surface of the metal wire layer.

10. (New) The bonding pad of claim 1, wherein the metal wire layer comprises an aluminum alloy.

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11. (New) The bonding pad of claim 1, wherein the passivation metal layer comprises a metallic material selected from the group consisting of Ti, TiN, Ta, TaN, WN and Si.

12. (New) The bonding pad of claim 1, wherein the insulating layer comprises an oxide.

13. (New) The bonding pad of claim 1, further comprising a passivation layer on the insulating layer.

14. (New) The bonding pad of claim 13, wherein the passivation layer comprises a nitride.

15. (New) A semiconductor device, comprising the bonding pad of claim 1, a soldering material in the contact hole, and a metal wire fixed thereto.

16. (New) The bonding pad of claim 1, wherein the barrier metal layer comprises a metal selected from the group consisting of Ti, Ta, TiN and TaN.

17. (New) The bonding pad of claim 1, wherein the barrier metal layer has a thickness of 200-1000 Å.

18. (New) The bonding pad of claim 1, wherein the metal layer remains only on the inner surface of the contact hole.

19. (New) The method of claim 4, wherein the metal layer remains only on the inner surface of the contact hole.